xiC – Premium Sony CMOS with USB3 Vision

What is xiC?

Miniature Sony CMOS family

- **Smallest camera featuring Sony Pregius™ sensors** - Compact with only 26.4 x 26.4 x 33 mm and lightweight with 38 grams [1]
- **Fast CMOS** - High speed, high frame rate: from 2.3 Mpix at 165 Fps to 12 Mpix at 31 Fps
- **Cool economy** - Low power consumption with under 3 Watt and minimal heat dissipation
- **All-around support** - support for Windows, Mac OSX, Linux, ARM and embedded platforms
- **Industry standard interface** - Compatible with USB 3.1 Gen 1, former USB 3.0 SuperSpeed
- **AIA standard** - USB3 Vision standard compliant
- **Adaptable potential** - Available with two connectors: novel USB Type-C and proven Micro-B
- **Software interfaces** - GenICam / GenTL and highly optimized API / SDK for Image Processing
- **Connectivity and Synchronization** - Programmable opto-isolated input and output, 4 status LEDs
- **Highly Customizable** - Variety of sensor options available in board level for OEM use
- **Interoperability increase** - Continuous embrace of new software and hardware partners
- **Cost efficient** - Excellent value and price with utilization of newest technologies including Sony Pregius™

(1) USB 3.0 Micro-B connector, for USB Type-C inquire at info@ximea.com

*Pregius is a Trademark of Sony Corporation

Models

xiC Sony CMOS with USB 3.1 Gen 1 models:

B/W model	Color model	Sensor	Resolution	Pixel µm	ADC bits	Frames per sec[1]	DR dB	Optical size	Power Watt
MC023MG-SY	MC023CG-SY	Sony IMX174	1936 x 1216	5.86	12/10	165 fps	71.7	1/1.2"	2.4
MC031MG-SY	MC031CG-SY	Sony IMX252	2064 x 1544	3.45	12/10/8	122 fps	70.9	1/1.8"	2.75
MC050MG-SY	MC050CG-SY	Sony IMX250	2464 x 2056	3.45	12/10/8	76 fps	70.8	2/3"	2.85
MC089MG-SY	MC089CG-SY	Sony IMX255	4112 x 2176	3.45	12/10/8	43 fps	70.5	16.1	3.25
MC124MG-SY	MC124CG-SY	Sony IMX253	4112 x 3008	3.45	12/10/8	31 fps	70.4	17.6	3.25

(1) Maximum frame rates measured at 8 bits per pixel raw data in free run mode.

All models are also available in **Board level** version or with **USB Type C** connector on request: info@ximea.com

Common features:

Sensor Technology	CMOS, Pregius™ technology
Acquisition Modes	Continuous, software trigger, hardware trigger (Global Shutter)
Partial Image Readout	ROI, Skipping and Binning modes supported (check manual for details)
Image data formats	8, 10, 12 bit RAW pixel data
SDK/API	Programmable with C++ and C#
Color image processing	Host based de-Bayering, sharpening, Gamma, color matrix, true color CMS, lookup table (LUT), hue, saturation, sharpness, white balance and more

Hot/blemish pixels correction	On camera storage of up to 5000 pixel coordinates, host assisted correction
Auto adjustments	Auto white balance, auto gain, auto exposure, HDR (High Dynamic range)
Flat field corrections	Host assisted pixel level shading and lens corrections. This feature is being developed and tested
Image Data and Control Interface	USB 3.0 standard Micro B with screw lock threads compliant to USB3 Vision standard
General Purpose I/O	1x opto-isolated input, 1x opto-isolated output, 2 GPIO, 4x LED software programmable
Signal conditioning	Programmable debouncing time
Synchronization	Hardware trigger input, software triggering, exposure strobe output, busy output
Housing and lens mount	Standard C mount. Adjustable into CS mount
Power requirements	3 Watt, supplied via USB 3.0 interface
Dimensions	26.4 x 26.4 x 33 mm (USB 3.0 Micro-B version)
Weight	38 grams (Micro-B version)
Environment	Operating 0°C to 50°C on housing, RH 80% non-condensing, -30°C to 60°C storage
Conformity	CE, FCC, RoHS, GenICam/GenTL, USB 3.1 Gen 1, USB3 Vision Compliant
Operating systems	Windows 7 SP1 (x86 and x64), W8, 8.1, 10, Linux Ubuntu, ARM, Mac OS X
Minimum host hardware	Intel i3 3.0GHz, 2GB RAM, NVIDIA or Radeon 128MB, Motherboard with PCIe x1 Gen 2 slot, compatible USB 3.0 host adapter
Software support	xiAPI SDK, adapters and drivers for various image processing Libraries
Firmware updates	Field firmware update through xiCOP

Applications

xiC Advantages for Applications using Sony CMOS Pregius™ with USB 3.0

- **Precise** - Quality Global shutter sensors with **Pregius™** technology deliver outstanding imaging quality.
- **Performance** - **4x** times faster than GigE, **5x** USB 2.0 and **10x** than Firewire.
- **Smallest** - Fits into places where no other comparable camera can fit. Payload-friendly SWAP.
- **Lightweight** - Facilitates increased performance of robotic arms and gimbals or UAV.
- **Efficient** - Low power consumption and heat dissipation.
- **Robust** - Sturdy full metal jacket, no sheet metal covers.
- **Adaptable** - Customization options via Board level or connectors allows easy integration into OEM solutions.
- **Economical** - Removes bulky constructions and accessories saving energy and space at better prices.
- **Genuine machine vision USB 3.1 Gen 1 camera** - No workaround solutions, **no frame grabbers**.